UNITED STATES DEPARTMENT OF COMMERCE
JESSE H. JONES, Secretary
NATIONAL BUREAU OF STANDARDS
LYMAN J. BRIGGS, Director

National Bureau of Standards

MAY 31 1941

CEDAR, CYPRESS, AND REDWOOD TANK-STOCK LUMBER

COMMERCIAL STANDARD CS92–41

Effective Date for New Production From April 15, 1941

Reference book not to be taken from the Library.

A RECORDED VOLUNTARY STANDARD OF THE TRADE

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PROMULGATION

of

COMMERCIAL STANDARD CS92–41

for

CEDAR, CYPRESS, AND REDWOOD TANK-STOCK LUMBER

On September 22, 1939, the Durable Woods Institute in cooperation with the California Redwood Association, Southern Cypress Manufacturers Association, and West Coast Lumbermen's Association, requested that a commercial standard be established for cedar, cypress, and redwood tank-stock lumber. Following several preliminary meetings, a proposed standard was submitted to a number of producers, tank manufacturers and consumer organizations for comment, and was later circulated to the trade for written acceptance. The trade has since accepted and approved for promulgation by the United States Department of Commerce, through the National Bureau of Standards, the standard as shown herein.

The standard is effective for new production from April 15, 1941.

Promulgation recommended.

I. J. Fairchild,
Chief, Division of Trade Standards.

Promulgated.

Lyman J. Briggs,
Director, National Bureau of Standards.

Promulgation approved.

Jesse H. Jones,
Secretary of Commerce.

CEDAR, CYPRESS, AND REDWOOD TANK-STOCK LUMBER

COMMERCIAL STANDARD CS92–41

PURPOSE

1. This quality standard for tank-stock lumber [1] is a basis for common understanding between manufacturers, distributors, and users of this product. By its general acceptance, use, and certification by labels, it is hoped that interest may be increased in the manufacture, sale, and use of high grade wood tanks, which should redound to the mutual advantage of all concerned.

2. The service afforded by naturally durable woods for tanks and the consequent success of the industry is in direct proportion to the quality of wood used, and therefore, the following commercial standard of quality is provided for guidance in the manufacture, sale, and use of this product.

SCOPE

3. This standard provides minimum specifications for one grade of all heartwood tank-stock lumber made of Western red cedar, Port Orford cedar, Southern cypress, and California redwood, in the following range of sizes:

(a) Thickness ..... 1½ to 4 inches;
(b) Width ..... 4 to 12 inches;
(c) Length ..... 6 to 32 feet.

It also covers allowable characteristics and conditions, tolerances, method of measurement, nomenclature and definitions, and a plan for certification and grade marking.

GENERAL REQUIREMENTS

4. All tank-stock lumber sold as conforming to this commercial standard shall meet the following general requirements:

5. *Seasoning.*—Material shall be of the seasoning as stated in the order. Where air or kiln seasoning is specified, the tank-stock lumber shall be properly and uniformly seasoned according to accepted methods.

6. *Workmanship.*—Tank-stock lumber shall be of good workmanship, of uniform thickness, and manufactured in accordance with good mill practice.

[1] Tank-stock lumber covered by this standard is from the following species: Western red cedar (*Thuja plicata*), Port Orford cedar (*Chamaecyparis lawsoniana*), Southern cypress (*Taxodium distichum*), and California redwood (*Sequoia sempervirens*). The heartwood of these species is extremely high in decay resistance, and their close grain and texture makes them particularly well suited for use in the construction of durable wood tanks.

7. *Grading.*—Tank-stock lumber shall be graded from the poor face. The basis of grade determination is a piece having 8 square feet surface measure.

DETAIL REQUIREMENTS

8. *Sizes.*—Tank-stock lumber conforming to this standard shall be of the following nominal rough sizes:

(a) Thicknesses: 1½, 2, 2½, 3, 4 inches.

(b) Widths: 4 to 12 inches, random widths. Specified widths shall be furnished when so ordered.

(c) Lengths: 6 to 32 feet, in increments of 1 foot. Specified lengths shall be furnished when so ordered.

9. *Tolerances.*—The rough seasoned thickness of tank-stock lumber shall be not more than 1/16 inch scant of the nominal thickness in stock less than 3 inches in thickness and not more than ⅛ inch scant of the nominal thickness in stock 3 inches and over in thickness. Rough seasoned tank-stock lumber when ordered in specified widths shall be not more than ¼ inch scant of the nominal specified width.

10. *Cedar.*—Commercial standard tank-stock lumber made of Western red cedar or Port Orford cedar shall be all heart, sound, close-grain material containing an average of not less than six annual rings per inch, measured radially. Stock shall be free from shake, splits, sapwood, and other characteristics unsuitable in tank stock, except those which will work off in milling; will admit not more than two small sound tight knots showing on one face only at least 1 inch from either edge. Medium surface checks that do not impair the usefulness of the piece for tank purposes will be admitted.

11a. *Cypress.*—Commercial standard tank-stock lumber made of Southern cypress shall be all heart, sound, dense material, free from shakes, splits, peck, sapwood, and other defects; will admit occasional small, sound, tight knots showing on one face only, at least 1 inch from either edge. Medium surface checks that do not impair the usefulness of the piece for tank purposes will be admitted.

11b. Southern cypress is classified into three types in American Lumber Standards, Simplified Practice Recommendation R16–39; namely, red cypress (coast type), yellow cypress (inland type), and white cypress (inland type). According to the information contained in the booklet entitled "American Southern Cypress",[2] the heartwood of cypress ranges from light yellowish brown to dark brown, reddish brown, or chocolate. However, even though color variations occur in the same locality, the cypress lumber produced from tidewater regions, especially within a belt 100 miles from salt water along the Gulf of Mexico and the southeastern Atlantic coast region, runs heavily to the darker colored wood and is referred to by the trade as tidewater red cypress. Lumber from further inland usually runs lighter in color and is commonly referred to as yellow or white cypress, depending upon the average color of the heartwood. No laboratory tests have been made to show the relative durability of the inland types and the coast, or tidewater, red-cypress type; however, the trade does make a distinction. Tidewater red cypress appears to have characteristics different from the inland types of cypress. As a result of long

[2] Trade Promotion Series No. 194, issued by the Bureau of Foreign and Domestic Commerce, U. S. Department of Commerce.

years of commercial experience in greenhouses and with wood tanks, where conditions are most favorable to decay, many large users of cypress prefer tidewater red cypress to the inland types.

12. *Redwood.*—Commercial standard tank-stock lumber made of California redwood shall be all heart, variable texture, sound, dense lumber containing an average of not less than eight annual rings per inch measured radially; free from shakes, splits, sapwood, and other characteristics unsuitable in tank stock, except those which will work off in milling; will allow sound bird's-eye well scattered, not more than one small, sound, tight knot showing on one face only, at least 1 inch from either edge, in occasional pieces. Slight crook permitted, but not over ¾ inch in a 6-inch width, 20 feet long, and ⅛ inch less crook for each additional 2 inches in width.

MEASUREMENT

13. Board measurement shall be used in measuring random widths of tank-stock lumber. When measured with a board rule, pieces measuring to the even half foot shall be alternately counted as of the next higher and the next lower surface foot; fractions below the half foot shall be dropped, and fractions above the half foot shall be counted as of the next higher foot. To determine the board-foot contents of material thicker than 1 inch, the surface measure should be multiplied by the nominal thickness in inches and fractions of an inch. When ordered in specified widths, a piece tally by thickness, width, and length shall be made.

CERTIFICATION

14a. In order to assure the purchaser that he is getting tank-stock lumber of the quality specified, the producers may, individually, or in concert with their trade association or inspection bureau, issue certificates guaranteeing that specific shipments conform to the standard. The following wording is recommended for such certificates:

> This _____ Tank-Stock Lumber is guaranteed
> (species)
> by the manufacturer to conform to Commercial Standard CS92–41 as issued by the National Bureau of Standards of the U. S. Department of Commerce.
>
> _____
> (Name of manufacturer)

14b. For the protection of wood-tank users, it is recommended that tank manufacturers attach, to each tank made from tank-stock lumber meeting the requirements of Commercial Standard CS92–41, a label certifying that the lumber used in its construction conforms to this standard. The following wording is recommended for such labels:

> This tank is guaranteed by the manufacturer to be made of _____ Tank-Stock Lumber which conforms
> (species)
> to all requirements of Commercial Standard CS92–41, as issued by the National Bureau of Standards, U. S. Department of Commerce.
>
> _____
> (Name of manufacturer)

GRADE MARKING

15a. The following sets forth the grade marks adopted by the California Redwood Association, Southern Cypress Manufacturers' Association, and the West Coast Lumbermen's Association to maintain the high standard of quality herein recorded, and to insure distributors and consumers of receiving tank-stock lumber that has been graded in accordance with this commercial standard under the supervision of the respective association.

Grade mark of California Redwood Association

CS92-41

TIDEWATER RED CYPRESS

Grade mark of Southern Cypress Manufacturers Association

Grade mark of West Coast Lumbermen's Association

15b. The National Hardwood Lumber Association provides for a system of certification in lieu of grade marking and states that it will issue its financially guaranteed certificates under the grading specifications of this commercial standard for tank-stock lumber in Southern cypress.

NOMENCLATURE AND DEFINITIONS

Air seasoned.—Seasoned by exposure to air, usually in a yard, without artificial heat.

Bird's-eye.—A small central spot with the wood fibers arranged around it in the form of an ellipse, so as to give the appearance of an eye. Unless unsound or hollow, it shall not be considered a defect.

Characteristics.—Any natural marking or injury which occurs in wood altering the uniformity of its appearance, such as knots, stain and wormholes.

Check.—A lengthwise separation of the wood, which occurs usually across the rings of annual growth.

Medium surface check.—Not over 1/32 inch wide, and over 4 but not more than 10 inches long.

Defect.—Any irregularity occurring in or on wood that may lower its strength, durability, or utility values.

Heartwood.—The darker colored wood occurring in the inner portion of the tree, sometimes referred to as "heart."

Kiln seasoned.—Seasoned by artificial heat to a moisture content which is less than can be normally obtained through the natural process known as air seasoning.

Knot.—A branch or limb, embedded in the tree, which has been cut through in the process of lumber manufacture. Knots are classified according to size, form, quality, and occurrence. The average of the maximum and minimum diameters shall be used in measuring the size of knots.

Small knot.—A knot which is not over ¾ inch in diameter.

Sound knot.—A knot which is solid across its face, as hard as the surrounding wood, and shows no indication of decay.

Tight knot.—A knot so fixed by growth or position as to firmly retain its place in the piece.

Peck.—Channeled or pitted areas or pockets of localized decay.

Sapwood.—The lighter-colored wood occurring in the outer portion of the tree, sometimes referred to as "sap."

Seasoning.—The evaporation or extraction of moisture from green or partially dried wood in order to improve its serviceability.

Shake.—A lengthwise separation of the wood which occurs usually between and parallel to the rings of annual growth.

Split (through check).—A lengthwise separation of the wood which occurs usually across the rings of annual growth, extending from one surface through the piece to the opposite surface, or to an adjoining surface.

EFFECTIVE DATE

The standard is effective for new production from April 15, 1941.

STANDING COMMITTEE

The following individuals comprise the membership of the standing committee, which is to review, prior to circulation for acceptance, revisions proposed to keep the standard abreast of progress. Each organization nominated its own representatives. Comment concerning the standard and suggestions for revision may be addressed to any member of the committee or to the Division of Trade Standards, National Bureau of Standards, which acts as secretary for the committee.

Manufacturers of tank stock lumber:

B. R. Ellis (chairman), Southern Cypress Manufacturers Association, 721–24 Barnett National Bank Building, Jacksonville, Fla.
B. F. Wade, California Redwood Association, 405 Montgomery Street, San Francisco, Calif.
Hal B. Alston, Durable Woods Institute, 155 East 44th Street, New York, N. Y.
C. J. Hogue, West Coast Lumbermen's Association, 364 Stuart Building, Seattle, Wash.

Manufacturers of wood tanks:

Ajax Tank & Tower Company. Invited to name representative.
LeB. Turner, U. S. Wind Engine & Pump Co., Batavia, Ill.
Carl S. Stander, The Hauser-Stander Tank Co., Cincinnati, Ohio.
C. E. Carlson, Johnson & Carlson, 848–864 Eastman Street, Chicago, Ill.

Users of wood tanks:

American Brewers Association. Invited to name representative.
American Paper & Pulp Association. Invited to name representative.
Frank J. Uehlein, W. E. Caldwell Co., 200 E. Brandies Street, Louisville, Ky. Representing National Association of Purchasing Agents.
National Association of Textile Dyers & Finishers. Invited to name representative.
Art Henkel, Fremont Kraut Co., Fremont, Ohio. Representing National Kraut Packers Association.
H. A. Caddow, Wine Institute, 85 Second Street, San Francisco, Calif.

HISTORY OF PROJECT

On September 22, 1939, the Durable Woods Institute in cooperation with the California Redwood Association, Southern Cypress Manufacturers Association, and West Coast Lumbermen's Association, requested the cooperation of the National Bureau of Standards in the establishment of a commercial standard for cedar, cypress, and redwood tank-stock lumber. Following several preliminary meetings, a draft of a proposed commercial standard was submitted to a number of producers, tank manufacturers and consumer organizations for their review and comment. After the requirements were harmonized and adjusted so that the draft represented the composite views of interested groups, the recommended commercial standard was circulated on June 14, 1940, to those directly concerned for written acceptance.

Upon receipt of official acceptance, estimated to represent a satisfactory majority of the production volume, and in the absence of active, valid opposition, the standard was promulgated as Commercial Standard CS92–41, effective for new production from April 15, 1941.

ACCEPTANCE OF COMMERCIAL STANDARD

If acceptance has not previously been filed, this sheet properly filled in, signed, and returned will provide for the recording of your organization as an acceptor of this commercial standard.

Date _____

Division of Trade Standards,
National Bureau of Standards,
Washington, D. C.

Gentlemen:

Having considered the statements on the reverse side of this sheet, we accept the Commercial Standard CS92–41 as our standard of practice in the

Production [1] Distribution [1] Use [1]

of cedar, cypress, and redwood tank-stock lumber.

We will assist in securing its general recognition and use, and will cooperate with the standing committee to effect revisions of the standard when necessary.

Signature of individual officer _____
(in ink)

(Kindly typewrite or print the following lines)

Name and title of above officer _____

Organization _____
(Fill in exactly as it should be listed)

Street address _____

City and State _____

[1] Please designate which group you represent by drawing lines through the other two. Please file separate acceptances for all subsidiary companies and affiliates which should be listed separately as acceptors. In the case of related interests, trade papers, colleges, etc., desiring to record their general approval, the words "in principle" should be added after the signature.

(Cut on this line)

TO THE ACCEPTOR

The following statements answer the usual questions arising in connection with the acceptance and its significance:

1. *Enforcement.*—Commercial standards are commodity specifications voluntarily established by mutual consent of those concerned. They present a common basis of understanding between the producer, distributor, and consumer and should not be confused with any plan of governmental regulation or control. The United States Department of Commerce has no regulatory power in the enforcement of their provisions, but since they represent the will of the interested groups as a whole, their provisions through usage soon become established as trade customs, and are made effective through incorporation into sales contracts by means of labels, invoices and the like.

2. *The acceptor's responsibility.*—The purpose of commercial standards is to establish for specific commodities, nationally recognized grades or consumer criteria and the benefits therefrom will be measurable in direct proportion to their general recognition and actual use. Instances will occur when it may be necessary to deviate from the standard and the signing of an acceptance does not preclude such departures; however, such signature indicates an intention to follow the commercial standard where practicable, in the production, distribution, or consumption of the article in question.

3. *The Department's responsibility.*—The major function performed by the Department of Commerce in the voluntary establishment of commercial standards on a Nation-wide basis is fourfold: first, to act as an unbiased coordinator to bring all interested parties together for the mutually satisfactory adjustment of trade standards; second, to supply such assistance and advice as past experience with similar programs may suggest; third, to canvass and record the extent of acceptance and adherence to the standard on the part of producers, distributors, and users; and fourth, after acceptance, to publish and promulgate the standard for the information and guidance of buyers and sellers of the commodity.

4. *Announcement and promulgation.*—When the standard has been endorsed by a satisfactory majority of production or consumption in the absence of active, valid opposition, the success of the project is announced. If, however, in the opinion of the standing committee or the Department of Commerce, the support of any standard is inadequate, the right is reserved to withhold promulgation and publication.

ACCEPTORS

The organizations and individuals listed below have accepted these grading rules as their standard of practice in the production, distribution, and use of cedar, cypress, and redwood tank-stock lumber. Such endorsement does not signify that they may not find it necessary to deviate from the standard, nor that producers so listed guarantee all of their products in this field to conform with the requirements of this standard. Therefore, specific evidence of quality certification should be obtained where required.

ASSOCIATIONS

Arizona Retail Lumber & Builders Supply Association, Inc., Phoenix, Ariz.
California Redwood Association, San Francisco, Calif.
Central Ohio Lumber Institute, Columbus, Ohio. (In principle.)
Chicago Lumber Institute, Chicago, Ill.
National-American Wholesale Lumber Association, Inc., New York, N. Y.
National Kraut Packers Association, Clyde, Ohio.
Pickle Manufacturers Society, Chicago, Ill.
Port Orford Cedar Lumber Association, Marshfield, Oreg.
Southern Cypress Manufacturers Association, Jacksonville, Fla.
Veneer Association, The, Chicago, Ill. (In principle.)
Water Cooling Tower Association, New York, N. Y., and St. Louis, Mo.

FIRMS

Acme Tank Manufacturing Co., Inc., Los Angeles, Calif.
Aermotor Co., Chicago, Ill.
Ajax Tank & Tower Co., Chicago, Ill.
Albrecht, Frederick, Baltimore, Md.
American Brewing Co., New Orleans, La.
Angelina Hardwood Co., Keltys, Tex.
Arkansas Valley Lumber Co., The, Wichita, Kans.
Arnold Print Works, North Adams, Mass.
Arrow Tank Co., Inc., Buffalo, N. Y.
Aspinook Corporation, Jewett City, Conn.
Atlanta Oak Flooring Co., Atlanta, Ga.
Baird Co., David, Camden, N. J.
Bancroft & Sons Co., Joseph, Wilmington, Del.
Baxter & Co., C. B., Kansas City, Mo.
Bratlie Bros. Mill Co., Ridgefield, Wash.
Brewing Corporation of America, Inc., Cleveland, Ohio.
Breyer Bros. Whiting & Co., Waupun, Wis.
Bristol Door & Lumber Co., Bristol, Tenn.
Brooks-Scanlon Corporation, Foley, Fla.
Brown-Forman Distillery Co., Louisville, Ky.
Browning Lumber Co., East Palatka, Fla.
Burton-Swartz Cypress Co. of Fla., Perry, Fla.
California Redwood Distributors, Ltd., Chicago, Ill.
Cameron Lumber Co., Inc., Newburgh, N. Y.
Carlisle Lumber Co., Onalaska, Wash.
Carlton Manufacturing Co., Carlton, Oreg.
Centlivre Brew Corporation, Fort Wayne, Ind.
Chapman-Storm Lumber Co., Moncks Corner, S. C.
Chicago Wooden Tank Co., Chicago, Ill.
Colonial Hardwood Flooring Co., Hagerstown, Md.
Craine, Inc., Norwich, N. Y.
Crossett Lumber Co., Crossett, Ark.
Cummer Sons Cypress Co., Jacksonville, Fla.
Damrow Bros. Co., Fond du Lac, Wis.
Danzer Lumber Co. of Washington County, The, Hagerstown, Md.
Darling Lumber Co., Portland, Oreg.
Davies Co., Inc., William, Chicago, Ill.
Denkmann Lumber Co., Canton, Miss.
District of Columbia, Government of the, Washington, D. C. (In principle.)
Dodds Lumber Co., Omaha, Nebr.
Dolbeer & Carson Lumber Co. San Francisco, Calif.
Drane Tank Co., Fort Worth, Tex.
Dultmeier Manufacturing Co., Manning, Iowa.
Dunck Tank Works, Inc., Milwaukee, Wis.
Duquesne Brewing Co. of Pittsburgh, Pittsburgh, Pa.

Eastman Kodak Co., Rochester, N. Y.
Eatonville Lumber Co., Eatonville, Wash.
El Dorado Brewing Co., Stockton, Calif.
Empire State Wine Co., Inc., Penn Yan, N. Y.
Evans Products Co., Portland, Oreg.
Exchange Lumber & Manufacturing Co., Spokane, Wash.
Ferguson Lumber Co., W. T., St. Louis, Mo.
Fleming Tank Co., Inc., Pittsburgh, Pa.
Florida Louisiana Red Cypress Co., Jacksonville, Fla.
Foley Lumber Co., T. A., Paris, Ill.
Frost Lumber Industries, Inc., Shreveport, La.
Gladbrook Pickles, Inc., Long Beach, Calif.
Hamm Brewing Co., Theo., St. Paul, Minn.
Hammond Lumber Co., San Francisco, Calif.
Hauser-Stander Tank Co., The, Cincinnati, Ohio.
Hellwig Silk Dyeing Co., The, Philadelphia, Pa.
Helwig & Leitch, Inc., Baltimore, Md.
Higgins Lumber Co., J. E., San Francisco, Calif.
Hoffmann, Inc., Anton, New York, N. Y.
Hollingshead Corporation, R. M., Camden, N. J.
Hollister-French Lumber Co., South Bend, Ind.
Holly Hill Cypress Co., Holly Hill, S. C.
Houston, Better Business Bureau of, Houston, Tex. (In principle.)
Hulbert Mill Co., William, Everett, Wash.
Hunter Machine Co., James, North Adams, Mass.
Hunting Lumber Co., R. D., Cedar Rapids, Iowa.
Hurd Lumber Co., Detroit, Mich.
Huss Lumber Co., Chicago, Ill.
Independent Silo Co., St. Paul, Minn.
Jasper County Lumber Co., Jasper, Tex.
Johnson & Carlson, Chicago, Ill.
Keith Lumber Co., The, Chicago, Ill.
Kellogg Lumber Co., Monroe, La.
Kiefer Associates, Inc., Carl J., Cincinnati, Ohio.
Kimball-Tyler Co., The, Baltimore, Md.
Krueger Brewing Co., G., Newark, N. J.
Kusel Dairy Equipment Co., Watertown, Wis.
Larkin Co., Inc., Buffalo, N. Y.
Lewis Lumber Co., Asbury Park and Spring Lake, N. J.
Lincoln Tank Co., Shreveport, La., and Big Spring, Tex.
Link-Newcomb Mill & Lumber Co., Tchula, Miss.
Long, W. S., Somerville, N. J.
Los Angeles Brewing Co., Los Angeles, Calif.
Louisiana Cypress Lumber Co., Inc., Ponchatoula, La.
Lutz & Schramm, Inc., Pittsburgh, Pa.
M & V Tank Co., Wichita Falls, Tex.
Mangold Stave & Cooperage Co., St. Louis, Mo.
Mauk Lumber Co., The C. A., Toledo, Ohio.
McMaster Lumber & Shingle Co., Marysville, Wash.
Miller Cedar Lumber Co., E. C., Aberdeen, Wash.
Miller Co., J. C., Grand Rapids, Mich.
Minneapolis Brewing Co., Minneapolis, Minn.
Monteath Co., J. H., New York, N. Y.
Montgomery Ward & Co., Inc., Chicago, Ill.
Moore Mill & Lumber Co., Bandon, Oreg.
Mount Tivy Winery, Inc., Fresno, Calif.
Mutual Lumber Co., Bucoda, Wash.
National Distillers Products Corporation, New York, N. Y.
National Tank Co., Tulsa, Okla.
New Orleans, Inc., Better Business Bureau of, New Orleans, La. (In principle.)
North Carolina Lumber Co., Hallsboro, N. C.
Northwestern Lumber & Manufacturing Co., Everett, Wash.
Onalaska Pickle & Canning Co., Onalaska, Wis.
Osceola Cypress Co., Osceola, Fla.
Overseas Lumber Co., Inc. New York, N. Y.
Pacific Lumber Co., The, San Francisco, Calif.
Pacific Tank & Pipe Co., Oakland, Calif.
Parkersburg Rig & Reel Co., The, Parkersburg, W. Va.
Patterson Foundry & Machine Co., The, East Liverpool, Ohio.
Peavy-Wilson Lumber Co., Inc., Holopaw, Fla.
Port Orford Cedar Co., Marshfield, Oreg.
Putnam Lumber Co., Shamrock, Fla.
Putnam Lumber Co., Calvin, Danvers, Mass.
Redwood Sales Co., San Francisco, Calif.
Remington Co., W. A., Hibbing, Minn.
Restrick Lumber Co., Detroit, Mich.
Reynolds & Manley Lumber Co., Savannah, Ga.
Robertson, Inc., John D., Long Beach, Calif.
Sacramento, Better Business Bureau of, Sacramento, Calif. (In principle.)

St. Joe Lumber & Export Co., Port St. Joe, Fla.
St. Paul & Tacoma Lumber Co., Tacoma, Wash.
Sayman Products Co., T. M., St. Louis, Mo.
Schlitz Brewing Co., Jos., Milwaukee, Wis.
Schutte Lumber Co., Kansas City, Mo.
Seattle Cedar Lumber Manufacturing Co., Seattle, Wash.
Slimmer, J., Chicago, Ill.
Snoqualmie Falls Lumber Co., Snoqualmie Falls, Wash.
Sondheimer Co., E., Sondheimer, La.
Stark Co., James E., Memphis, Tenn.
Stearns Lumber Co., The A. T., Neponset, Boston, Mass.
Stehling Co., Chas. H., Milwaukee, Wis.
Swift & Co., Chicago, Ill.
Terrell Lumber Co., Jacksonville, Fla.
Tremont Lumber Co., Rochelle, La.
Turner Lumber Co., J. C., Irvington, N. Y.
Union Lumber Co., San Francisco, Calif.
United States Finishing Co., The, Norwich Branch, Norwich, Conn.
Vestal Lumber & Manufacturing Co., Knoxville, Tenn.
Virginia Machinery & Well Co., Inc., Richmond, Va.
Wenneis Tank Co., New York, N. Y.
West Lumber Co., The Bert R., Spokane, Wash.
Weyerhaeuser Timber Co., Tacoma, Wash.
Wieckert Lumber Co., E. F., Neenah, Wis.
Wilcox Johnson Tank Co., Inc., Victor, N. Y.
Willingham & Co., Chattanooga, Tenn.
Wilson Cypress Co., Palatka, Fla.
Windeler Co., Ltd., George, San Francisco, Calif.
Woodard Lumber Co., W. A., Cottage Grove, Oreg.

U. S. GOVERNMENT

Treasury Department, Washington, D. C.
Veterans, Administration, Washington, D. C.
War Department, Washington, D. C.

COMMERCIAL STANDARDS

CS No.	Item
0–40	Commercial standards and their value to business (third edition).
1–32.	Clinical thermometers (second edition).
2–30.	Mopsticks.
3–40.	Stoddard solvent (third edition).
4–29.	Staple porcelain (all-clay) plumbing fixtures.
5–40.	Pipe nipples; brass, copper, steel, and wrought iron.
6–31.	Wrought-iron pipe nipples (second edition). Superseded by CS5–40.
7–29.	Standard weight malleable iron or steel screwed unions.
8–41.	Gage blanks (third edition).
9–33.	Builders' template hardware (second edition.)
10–29.	Brass pipe nipples. Superseded by CS5–40.
11–29.	Regain of mercerized cotton yarns.
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21–39.	Interchangeable ground-glass joints, stopcocks, and stoppers (fourth edition).
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24–30.	Standard screw threads.
25–30.	Special screw threads.
26–30.	Aromatic redcedar closet lining.
27–36.	Mirrors (second edition).
28–32.	Cotton fabric tents, tarpaulins, and covers.
29–31.	Staple seats for water-closet bowls.
30–31.	Colors for sanitary wate.
31–38.	Wood shingles (fourth edition).
32–31.	Cotton cloth for rubber and pyroxylin coating.
33–32.	Knit underwear (exclusive of rayon).
34–31.	Bag, case, and strap leather.
35–31.	Plywood (hardwood and eastern redcedar).
36–33.	Fourdrinier wire cloth (second edition).
37–31.	Steel bone plates and screws.
38–32.	Hospital rubber sheeting.
39–37.	Wool and part wool blankets (second edition).
40–32.	Surgeons' rubber gloves.
41–32.	Surgeons' latex gloves.
42–35.	Fiber insulating board (second edition).
43–32.	Grading of sulphonated oils.
44–32.	Apple wraps.
45–40.	Douglas-fir plywood (domestic grades) (fourth edition).
46–40.	Hosiery lengths and sizes (third edition).
47–34.	Marking of gold-filled and rolled-gold-plate articles other than watch cases.
48–40.	Domestic burners for Pennsylvania anthracite (underfeed type) (second edition).
49–34.	Chip board laminated chip board, and miscellaneous boards for bookbinding purposes.
50–34.	Binders board for bookbinding and other purposes.
51–35.	Marking articles made of silver in combination with gold.
52–35.	Mohair pile fabrics (100-percent mohair plain velvet, 100-percent mohair plain frieze, and 50-percent mohair plain frieze).
53–35.	Colors and finishes for cast stone.
54–35.	Mattresses for hospitals.
55–35.	Mattresses for institutions.
56–41.	Oak flooring (second edition).
57–40.	Book cloths, buckrams, and impregnated fabrics for bookbinding purposes except library bindings (second edition).
58–36.	Woven elastic fabrics for use in overalls (overall) elastic webbing).
59–39.	Woven dress fabrics—testing and reporting (second edition).
60–36.	Hardwood dimension lumber.
61–37.	Wood-slat venetian blinds.
62–38.	Colors for kitchen accessories.
63–38.	Colors for bathroom accessories.
64–37.	Walnut veneers.
65–38.	Wool and part-wool fabrics.
66–38.	Marking of articles made wholly or in part of platinum.
67–38.	Marking articles made of karat gold.
68–38.	Liquid hypochlorite disinfectant, deodorant, and germicide.
69–38.	Pine oil disinfectant.
70–41.	Phenolic disinfectant (emulsifying type) (second edition) (published with CS71–41).
71–41.	Phenolic disinfectant (soluble type) (second edition) (published with CS70–41).
72–38.	Household insecticide (liquid spray type).
73–38.	Old growth Douglas fir standard stock doors.
74–39.	Solid hardwood wall paneling.
75–39.	Automatic mechanical draft oil burners.
76–39.	Hardwood interior trim and molding.
77–40.	Sanitary cast-iron enameled ware.
78–40.	Ground-and-polished lenses for sun glasses (second edition) (published with CS79–40).
79–40.	Blown, drawn, and dropped lenses for sun glasses (second edition) (published with CS78–40).
80–41.	Electric direction signal systems other than semaphore type for commercial and other vehicles subject to special motor vehicle laws (after market).
81–41.	Adverse-weather lamps for vehicles (after market).
82–41.	Inner-controlled spotlamps for vehicles (after market).
83–41.	Clearance, marker, and identification lamps for vehicles (after market).
84–41.	Electric tail lamps for vehicles (after market).
85–41.	Electric license-plate lamps for vehicles (after market).
86–41.	Electric stop lamps for vehicles (after market).
87–41.	Red electric warning lanterns.
88–41.	Liquid-burning flares.
89–40.	Hardwood stair treads and risers.
90– .	(Reserved for power shovels and cranes.)
91–41.	Factory-fitted Douglas fir entrance doors.
92–41.	Cedar, cypress, and redwood tank-stock lumber.

NOTICE.—Those interested in commercial standards with a view toward accepting them as a basis of everyday practice may secure copies of the above standards, while the supply lasts, by addressing the Division of Trade Standards, National Bureau of Standards, Washington, D. C.